

a pressure chamber for dissolving the foaming agent in the plasticized and compacted material, the plasticized and compacted material being adapted to be supplied from said pressure chamber by a throttle means to a die, wherein the pressure chamber is formed between two plungers that are adapted to be axially displaced in an interior of a pressure cylinder.

24. (New) An injection molding device according to claim 23, wherein the plasticizing means is an extruder.

25. (New) An injection molding device according to claim 23, wherein at least one of the apportioning means, the mixer, and the pressure chamber define a module adapted to be secured to a discharge end of the extruder by a flange.

26. (New) An injection molding device according to claim 23, wherein the mixer includes a mixing screw supported in a substantially cylindrical mixing chamber.

27. (New) An injection molding device according to claim 23, wherein the mixing chamber is connected to the pressure cylinder by a supply bore adapted to be closed by at least one of the two plungers.

28. (New) An injection molding device according to claim 23, wherein a longitudinal axes of the mixing screw and of the pressure cylinder extend substantially parallel to one another.

29. (New) An injection molding device according to claim 23, wherein the pressure cylinder is connected to the throttle means displaced relative to the supply bore viewed in a direction of a longitudinal axis of the pressure cylinder.

30. (New) An injection molding device according to claim 23, wherein the throttle means is substantially formed by an outlet bore that opens into the interior of the pressure cylinder.

31. (New) An injection molding device according to claim 23, wherein a volume of the pressure chamber can be varied by an adjustable distance between the two plungers.

32. (New) An injection molding device according to claim 30, wherein the two plungers are configured to be displaced between an admitting position connecting the pressure chamber to the supply bore and a discharge position connecting the pressure chamber to the outlet bore.

33. (New) An injection molding device according to claim 32, wherein at the discharge position, the outlet bore can be variably closed by one of the two plungers acting as a throttle plunger for determining a pressure relief rate.

34. (New) An injection molding device according to claim 32, wherein, at the discharge position, one of the two plungers acting as a pressure plunger is movable towards the throttle plunger in a controlled manner to determine an injection rate into the die.

35. (New) An injection molding device according to claim 30, wherein at least one of the two plungers is provided with a transverse bore for feeding ungassed, plasticized material to the outlet bore.

36. (New) An injection molding device according to claim 35, wherein, at a through-position of the two plungers, the transverse bore connects a bypass bore to the outlet bore, said bypass bore communicating with the plasticizing means.

37. (New) An injection molding device according to claim 36, wherein, at the through-position, the supply bore is closed.

38. (New) An injection molding device according to claim 23, wherein an extruder antechamber is formed in the plasticizing means between a discharge end and an extruder screw.

39. (New) An injection molding device according to claim 23, wherein the extruder is followed by a discharge bore branching into a mixer bore, which extends towards the mixer, and the bypass bore.

40. (New) An injection molding device according to claim 39, wherein the foaming agent is adapted to be fed to the mixer bore by the apportioning means.

41. (New) An injection molding device according to claim 40, wherein the apportioning of the foaming agent is controllable in dependence upon a feed rate of the extruder screw.

42. (New) An injection molding device according to claim 23, wherein, in dependence upon a desired diffusion pressure, at least one of the two plungers is configured to be moved away from the other of the two plungers when the pressure chamber is being filled with material.

IN THE ABSTRACT

Please delete the original Abstract page 14 in its entirety and insert therefor:

ABSTRACT

An injection molding device for a foamable materials, in which a foaming agent is dissolved in the foamable material inside a pressure chamber. The pressure chamber is formed between two plungers that are adapted to be axially displaced in an interior of a pressure cylinder.

REMARKS

Favorable consideration of this application, as presently amended, is respectfully requested.

The present preliminary amendment is submitted to place the above-identified application in more proper format under United States format.

By the present preliminary amendment original Claims 1-22 are cancelled and new Claims 23-44 are presented for examination. New Claims 23-44 are deemed to be self-evident from the original disclosure, including original Claims 1-22, and thus are not deemed to raise any issues of new matter. Any differences between new Claims 23-44 and original Claims 1-22 are believed to at most broaden the scope of new Claims 23-44.

A new Abstract believed to be in more proper format under United States practice, and based on the original Abstract, is also submitted herein.

The present application is believed to be in condition for a full and thorough examination on the merits. An early and favorable consideration of the present application is hereby respectfully requested.

Respectfully submitted,

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